

A NOTE REGARDING THE CHINESE ALLIGATOR.

BY THOMAS BARBOUR.

The existence of a true alligator in China is one of the most interesting and remarkable facts which has ever been brought to the notice of zoogeographers. Specimens are rare in collections, and it is probable that the example which has led to this note is the first one to be received by an American Museum. The Museum of Comparative Zoology received a few days ago a most excellent mounted specimen, with skull, of an alligator which was brought from the region near the mouth of the Yangtse River by Captain Thomas Golding, and given to Dr. W. T. Hornaday, who had it in his private collection for seven years. Dr. Hornaday very kindly gave it to the writer, and it is a great pleasure to thank him most heartily for what has proved an extremely welcome addition to the reptile collection of the Museum.

To the average American naturalist the fact that our American alligator has a close congener in the Yangtse in China is unknown, and for that reason I am presenting here a short history of our knowledge of this most interesting creature.

In 1870 Mr. Swinhoe, a well-known authority on Chinese zoology, wrote in the *Proceedings* of the Zoological Society of London (p. 410) the following: "In February, 1869, some Chinese were exhibiting in the native city of Shanghai what they called a dragon, which they declared had been dug out of a hole in the province of Shense. It was a young crocodile about four feet long, which they kept in tepid water. They made so much money by showing it, that they refused to sell it. I can not, of course, guess its species; but I nevertheless think the fact worth recording, as evidence that a species of this group does occur in China."

Nine years later Mr. A. A. Fauvel, of the Imperial Chinese Maritime Customs and the Honorary Curator of the Shanghai Museum, wrote a long description and historical account¹ of the Yangtze alligator. As this publication is not always easily obtainable, it may be well to note briefly some of the interesting points which Fauvel brings out. It apparently has been known since the earliest times in Chinese

¹ *Jour. No. China Br. Roy. Asiat. Soc.*, XIII, 1879, pp. 1-36f., 3 pl.

literature, and there is mention of its growing to over ten feet in length; and that its skin was formerly much used for drum-heads. It is, however, generally spoken of as being from five to six feet long. It may have existed formerly in various parts of China, and we are told that the "Canton Annals" say that the head can be cut off and dried before the animal dies, the muzzle can be broken into pieces and all the teeth pulled out, and still it lives, the Cantonese having a remarkable belief in the creature's great tenacity of life, the scales of the "dragon" are used as medicine. They are supposed to cure diseases of the heart and intestines, fevers and female disorders, diseases arising from fear, nose-bleeding and toothache. They are also valued as a vermifuge, as a remedy for goitre and skin diseases. Fauvel notes its history in Chinese literature since the Wu dynasty, or from about 222-27 A.D. Curiously enough it has been very little mentioned in foreign works on China. Marco Polo and Father M. Martini both knew of it; but the former spoke only from hearsay, while the priest derived his information from native literature (Martini, *Atlas Sinensis*, Amsterdam, 1656). In Martini we find the following: "Ad urbis ortum est lacus parvus Go, in quo olim Rex Pegao decem aluit crocodilos, quibus, ut devorarentur objicere solebat reos et sceleratos; ab iis innocentes numquam laesos fuisse narrant, adeoque, quos crocodilli non occiderent, liberi eo ipso, tanquam vacantes omni culpa abire jubebantur." Martini also tells us that at Chingkiang they infested the river to the great terror of the people.

Morrison, in his monumental Chinese dictionary, states positively that crocodiles occur in the Yangtse River; and Wells Williams, in *The Middle Kingdom* also speaks of its occurrence; but his information also may have been derived from his studies of Chinese literature.

The Shanghai *Evening Courier* for March 17, 1869, contains a humorous account of several Englishmen who went to see a crocodile exhibited in the native city of Shanghai. The Chinese who had it said that it came from the mountains of Kiangsi. The Europeans presumed that it had been brought from Siam, however, and vaguely suggested that they might possibly be looking at a new species, little realizing that they actually were.

Fauvel has collected much other data. He states, for instance, that he received a letter from Mr. Reynolds, also in the Customs service, who saw a tame one in a temple pool near Nanking in April, 1853. Several were reported seen in the Yangtse near Chingkiang by officers of gunboats and river steamers; while others were said to have been kept alive in temples thereabouts. It seems that it

has been considered an act of merit for Buddhist priests to buy the creatures from their captors whenever possible, and free them.

Fauvel got his first specimen in April, 1879, and he published an account of it in the North China *Daily News* on the 9th of May. This specimen was dug from the mud of the river bank near Wuhu. He later obtained a second specimen from Chingkiang, and later still got a skull in the native city of Shanghai. He mentions two being kept alive by Herr von Möllendorff, German Consul at Shanghai, who got his from Poyang Lake.

Fauvel discusses the fact that the creature is also spoken of in Korean literature, and seems rather to incline toward the belief that it will ultimately be found in rivers or lakes of southern Korea. This, however, is extremely unlikely, and it has only been definitely proved to exist in the lower Yangtse River and its affluents. Fauvel sent his type to Paris.

We next hear of it in Vaillant.² This was simply a condensed digest, translated into French, of Fauvel's original description. Von Möllendorff himself published a note³ on the specimens which he procured. In 1888 Dr. Oscar Boettger⁴ published a note regarding the history of the discovery of the species by Swinhoe and Fauvel, and regarding the living specimens belonging to von Möllendorff.

In 1890, Dr. G. A. Boulenger,⁵ published a paper entitled "Remarks on the Chinese Alligator," a specimen having been received at the British Museum, and two others alive at the Gardens of the Zoological Society. He contributed some notes regarding variations among characters previously supposed to be diagnostic, but which were really inconstant. His figures are excellent.

Boettger mentions it again in the collection of Dr. Schmacker in "Materialien zur herpetologischen Faune von China, III."⁶

In 1898 Vaillant⁷ contributed an excellent account in his "Contribution a l'étude des Emydosauriens."

Up to the present time in these various publications but ten specimens altogether appear to have come to the collections of museums in the Old World. As a considerable number of specimens lack definite data, it is impossible as yet to limit its range with any degree of certainty. Most of the specimens have been taken near the two towns

² *Ann. Sc. Nat.*, (6th) IX, Art. 8, 1880.

³ *Sitz. Ber. Niederrhein. Ges. Bonn*, 1880, p. 32.

⁴ *Ber. Offenbach. Ver. f. Nat.*, 1889 (1888), p. 111.

⁵ *Proceedings of the Zoological Society of London*, p. 619, pls. 51, 52.

⁶ *Ber. Senck. Nat. Ges.*, 1894, p. 142.

⁷ *Nouv. Arch. Mus. Paris*, (3) X, 1898, p. 206, pl. 13.

of Wuhu and Chingkiang, though records exist for Poyang Lake and Nanking. Thus it will be seen that the distribution is peculiarly circumscribed. Gadon states that alligator remains have been found in European fluviatile deposits of the Upper Chalk age. In fact, they did not completely disappear from Europe until as late as the Pliocene. The Chinese alligator is a survivor in a limited area, as is our alligator, of some form which once had a holartic distribution.

The present specimen agrees very closely with Fauvel's original description, and has the regular three pairs of nuchal plates. It is just forty-eight inches long, of which the head takes up one-sixth. Fauvel's adult specimen was five feet eight inches in length. Thus it will be seen that this might almost be spoken of as a dwarf species.

Since the above was written I have heard that Dr. Wolterstorff of Magdeburg, has a specimen (no data given) 145 cm. in length.